

# EFFECT OF SUSTAINABILITY REPORTING ON FINANCIAL PERFORMANCE OF LISTED OIL AND GAS IN NIGERIA

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## Abstract

In the contemporary landscape of global finance, the integration of sustainability reporting into business practices has become a pivotal theme, with banks assuming a central role in the pursuit of responsible and ethical operations. This study examined the effect of sustainability reporting on the financial performance of listed oil and gas firms in Nigeria, using ROA as measures of performance from 2013 to 2023. The population of the study comprise listed oil and gas firms in Nigeria. Secondary data were extracted from the annual report and sustainability report of the sampled firms. The data were analysed using Generalized Leas Square regression. The analysis yielded several key findings. First, economic sustainability reporting was found to have a significant positive effect on financial performance. Second, the results revealed that environmental sustainability reporting exerts a mixed effect on financial performance. While firms that disclose proactive environmental initiatives tend to benefit in terms of reputation and long-term investor confidence, the associated compliance and mitigation costs are found to reduce short-term profitability. This suggests that environmental reporting is both a strategic opportunity and a financial challenge in the Nigerian oil and gas sector. Third, social sustainability reporting demonstrated a negative effect on financial performance. Firms that disclosed their commitments to employee welfare, community relations, and corporate social responsibility projects reported inverse effect on financial outcomes, highlighting the value of social investments in reducing community conflict and strengthening the social license to operate may not result to financial performance. Fourth, the study found that governance sustainability reporting has a significant impact on firm performance. Disclosure of governance practices such as board independence, audit committee oversight, and anti-corruption policies improved accountability, reduced agency costs, and contributed positively to both accounting-based and market-based performance measures. The study therefore recommends that the management of Oil and gas firms in Nigeria should embed economic sustainability reporting into their strategic planning, not as an afterthought but as a central pillar of corporate governance. This will help strengthen stakeholder trust and ensure alignment with both national economic goals and global sustainability frameworks.

**Keywords:** Environmental Reporting, Governance Reporting, Social Reporting, Sustainability Reporting, Oil And Gas.

## 1. INTRODUCTION

In recent years, sustainability reporting practices have attracted increased attention as organizations face growing pressure from stakeholders to prioritize ethical, sustainable, and transparent business operations. This trend is particularly significant in high-impact sectors such as oil and gas, where operational activities carry notable environmental and social consequences. Sustainability reporting is centered around Environmental, Economic, Social and Governance (ESG) principles. According to Okonjo and Amadi (2023), it is a framework used to evaluate how a company or organization manages risks and opportunities related to environmental protection, social responsibility, and corporate governance. ESG is widely used by investors, regulators, and stakeholders to assess a company's long-term sustainability, ethical behavior, and impact on society. Globally, companies that integrate ESG principles into their operations tend to attract long-term investors, enhance stakeholder trust, and achieve

better financial performance. In developed markets, ESG compliance is increasingly tied to investment decisions, as regulatory bodies impose stricter requirements on sustainability reporting and corporate accountability (Whitaker, 2022). Investors and regulators view ESG compliance as a key determinant of a company's overall financial performance.

In Nigeria, the oil and gas sector remain the cornerstone of the economy, contributing a substantial portion of national revenue. However, it is equally associated with ecological degradation, community unrest, and governance challenges, especially in oil-producing regions (NUPRC, 2022). ESG adoption is still evolving, with varying levels of implementation across companies. The oil and gas sector, a major driver of the country's economy, faces persistent environmental, Economic, social, and governance challenges. Issues such as gas flaring, oil spills, weak corporate governance, and community conflicts have resulted in regulatory fines, legal disputes, and declining investor confidence (Nazarova & Tikhomirov, 2022). While some firms, such as Seplat Energy and Total Energies Nigeria, have taken steps toward ESG integration by improving sustainability disclosures and investing in emission reduction technologies, others struggle with regulatory inconsistencies, financial constraints, and inadequate enforcement of environmental policies (Elidrisy, 2024). The Nigerian Gas Flare Commercialization Program (NGFCP), introduced to curb flaring and promote cleaner energy use, has seen limited enforcement, leading to continued environmental degradation.

According to the Global Reporting Initiative (GRI, 2021), a sustainability report is a statement made public by an organization that details the effects of its daily activities on society, the environment, and the economy. A sustainability report demonstrates how the organization's strategy for a healthy global economy and dedication to its organization's principles and governance structure. Organizations can manage change and set goals if they monitor, comprehend, and share their social, environmental, and economic performance through sustainability reporting. An essential tool for conveying sustainability performance and impact, whether they are favorable or bad, is a sustainability report (Mutalib et al., 2020). According to the systems view of business, the relationship between the "duos" is reciprocal or symbiotic when organizations (especially businesses) adapt to their circumstances. In light of the current environmental crisis, businesses need to take further steps to safeguard the environment. Businesses operate in an unsustainable setting and take unsustainable actions. (Mutalib, et al, 2020).

The Nigerian Exchange Group (NGX) introduced Sustainability Disclosure Guidelines in 2018 to encourage transparency, but compliance remains voluntary mainly, leading to inconsistent ESG reporting across firms. Without mandatory ESG disclosure, investors struggle to assess companies' sustainability commitments, increasing the risk of greenwashing, where firms exaggerate their ESG efforts without meaningful actions (Balogun & Okafor, 2023). The absence of a unified regulatory structure also affects corporate governance, with weak enforcement of board independence, risk compliance, and anti-corruption policies, further undermining investor trust (Ogunyemi & Adamu, 2023). Despite these challenges, companies that adopt strong environmental management strategies such as reducing greenhouse gas emissions, implementing energy efficiency measures, and adhering to pollution control

regulations often experience long-term cost savings and improved market reputation (Egbetokun et al. 2023). However, the financial burden of adopting cleaner technologies and the lack of government incentives for sustainability investments remain key obstacles (Aliasghar et al. 2023). Similarly, social engagement through corporate social responsibility (CSR) initiatives, community development programs, and stakeholder collaboration plays a crucial role in maintaining operational stability. In oil-producing regions, unresolved conflicts with host communities have led to disruptions, sabotage, and legal battles, increasing financial and reputational risks for companies that fail to engage meaningfully (Olatunji & Eze, 2023).

The motivation of this study is based on several premises. First, the growing call for sustainability disclosure by firms by regulators for phased compliance with penalties for non-compliance, giving large companies 4 years to align. Firms that move early cut enforcement and transition risk, and reduce disclosure frictions with lenders and rating agencies. Secondly, the NGX (2019) already issues Sustainability Disclosure Guidelines and is developing climate-disclosure guidance aligned with global frameworks. Better, decision-useful ESG reporting improves comparability, helping attract patient capital and index inclusion, which can translate into valuation and liquidity benefits. Thirdly, Under the Petroleum Industry Act (PIA) 2021, operators must set up Host Communities Development Trusts and fund them (with mechanisms and sanctions spelled out). Credible reporting on how firms meet these obligations builds trust, reduces disruptions, sabotage, and shutdowns which directly improves revenues and margins.

Transparent reporting on spill prevention/cleanup, decommissioning, and methane/flaring reduction helps contain contingent liabilities and reputational damage especially salient amid IOC divestments and heightened scrutiny of legacy pollution in the Niger Delta. Lower perceived tail risk can reduce the cost of capital. Recent Nigeria-focused studies (Onwubiko et al. 2025; Idris et al. 2025; Okon et al, 2023) on listed oil & gas firms report mixed but often positive links between sustainability reporting and financial performance (e.g., ROA/ROE), suggesting value is sensitive to what is disclosed (governance, social, environmental) and how it's implemented. This heterogeneity itself motivates more rigorous, decision-useful reporting.

This study examines the effect of sustainability reporting practices on the financial performance of Nigeria's listed oil and gas companies. By integrating empirical data and theoretical insights, it seeks to understand how environmental management, economic, social engagement, and governance quality influence performance in a highly regulated and dynamic industry.

This study is motivated by the dynamic landscape of environmental responsibility, the changing expectations of stakeholders, the evolving regulatory environment, and the strategic importance of sustainability reporting for the oil and gas sector. Sustainability reporting and financial performance nexus in Nigeria is dynamic (Abubakar & Sadiq, 2023; Arumona et al., 2021; Ayu et al., 2020; Okpala & Iredele, 2018). The dynamic nature is influenced by regulatory developments, market demands, and firms' commitment to sustainable practices. Prior studies focused on other sectors namely Abubakar and Sadiq (2023) examined environmental disclosure impact on financial performance of cement firms in Nigeria. Igbekoyi et al. (2021) study centered on listed manufacturing firms in Nigeria. Iyoha and Igbinovia (2023) focused on Agro-manufacturing firms in Nigeria. While Eniola (2022) used a case study

of Oando Plc. Previous studies such as Alhassan et al. (2021); Akinadewo et al. (2023); Anumaka (2023); Nzekwe et al. (2021); Owolabi et al. (2016) centered on industrial goods firms. Ogiriki and Igo (2022) studied non-financial companies in Nigeria. Also, While the study of Asuquo et al. (2018) examined the effect of sustainability reporting on corporate performance of quoted brewery firms in Nigeria. Owolabi and Okulenu (2020) and Yahaya and Alkasim (2021) examined sustainability reporting on financial performance of insurance company in Nigeria. These studies centered on different sectors and hence, their findings cannot be generalized to the oil and gas sector. Secondly, another gaps this study intends to fill is that prior studies such as Andania and Yadnya (2020); Celik (2023); Clarissa and Rasmini (2018); Dogan and Kevser (2021); Diantimala (2018); Garcia (2022); Wahyuni (2020) were focused on other countries. Due to the difference in geographical location, there is a need to conduct a study on sustainability reporting on financial performance in Nigeria.

Also, the study introduced firm size and leverage as control variables. Larger firms typically have more resources to invest in sustainability initiatives and reporting. They can afford the costs associated with comprehensive sustainability reporting, which may include data collection, analysis, and third-party verification. Larger firms may see a stronger positive relationship between sustainability reporting and financial performance due to better resource allocation, more significant economies of scale, and greater visibility. High leverage increases a firm's financial risk, making creditors and investors more sensitive to the firm's sustainability practices. Effective sustainability reporting can mitigate perceived risks by demonstrating a commitment to responsible management, which can positively influence financial performance. In highly leveraged firms, sustainability reporting might play a more critical role in shaping financial outcomes by reducing the cost of capital and improving investor confidence.

However, environmental risks can potentially impact the financial performance of oil and gas firms in Nigeria. The extent to which effective sustainability reporting contributes to financial resilience is not well-established. The lack of clarity on this effect hampers the ability of firms to proactively address sustainability challenges. These challenges highlight the need for deeper research into how ESG adoption influences financial performance in Nigeria's oil and gas industry. Understanding these dynamics will help in formulating strategies that align corporate sustainability efforts with profitability and long-term business success.

The main objective of this study is to examine the effect of sustainable reporting on the financial performance of listed oil and gas firms in Nigeria. The specific objectives are to:

### ***Research Hypotheses***

The following hypotheses are stated in their null form:

- H<sub>01</sub>: Economic sustainability reporting has no significant effect on return on asset of listed oil and gas firms in Nigeria.
- H<sub>02</sub>: Environmental sustainability reporting has no significant effect on return on asset of listed oil and gas firms in Nigeria.

- H<sub>03</sub>: Social sustainability reporting has no significant effect on return on asset of listed oil and gas firms in Nigeria.
- H<sub>04</sub>: Governance sustainability reporting has no significant effect on return on asset of listed oil and gas firms in Nigeria.
- H<sub>05</sub>: Firm size has no significant effect on return on asset of listed oil and gas firms in Nigeria.
- H<sub>06</sub>: Financial leverage has no significant effect on return on asset of listed oil and gas firms in Nigeria.

## 2. LITERATURE REVIEW

The conceptual review provides a structured examination of the key concepts relevant to this study, including Environmental, Social, and Governance (ESG) practices, financial performance, and corporate reputation. It establishes a clear understanding of how these variables interact within the context of Nigeria's listed oil and gas companies.

Environmental, Social, and Governance (ESG) Practices refer to the sustainability strategies and ethical business practices adopted by firms to ensure long-term corporate responsibility. Environmental Management focuses on reducing greenhouse gas emissions, controlling gas flaring, and implementing sustainable resource management. Social Engagement encompasses community development, employee safety, and stakeholder relations, while Governance Quality addresses board independence, anti-corruption compliance, and transparency in corporate decision-making. ESG adoption has gained prominence as companies recognize its strategic and financial benefits, ranging from enhanced investor confidence to improved operational efficiency.

Financial performance refers to a company's ability to generate profit, maintain financial stability, and sustain long-term growth. It serves as a key indicator of corporate success, investor confidence, and operational efficiency (Mnif & Tahari, 2023). In the oil and gas sector, financial performance is particularly influenced by market conditions, regulatory pressures, corporate governance structures, and sustainability practices (Bello et al., 2022). Measuring financial performance involves assessing profitability, liquidity, and market valuation using indicators such as return on assets (ROA), return on equity (ROE), and revenue growth (Saragih, 2023). Among these, ROA is widely used in ESG-related research, as it evaluates how effectively a company utilizes its assets to generate profit while incorporating sustainability considerations (Ositashvili, 2024).

This conceptual review lays the groundwork for analyzing how ESG practices contribute to financial performance, with corporate reputation shaping the strength of this relationship. By clarifying these key constructs, the study establishes a structured framework for investigating ESG-financial performance dynamics within Nigeria's oil and gas sector.

This study introduced control variables in examining the effect of sustainability reporting on financial performance. Control variables, in the context of research, are variables that are held constant or systematically varied to examine their effects on the relationship between the

independent and dependent variables. The inclusion of control variables helps researchers isolate the specific impact of the independent variable on the dependent variable by accounting for potential confounding factors. The effect of control variables on a study can be substantial, and it's important to consider these effects carefully. Control variables increase precision and accuracy, improve validity of causal inferences. The control variables adopted in this study include firm size and financial leverage.

The size of a company is the most commonly analyzed feature in the reviewed studies to explain the level of disclosure in general. According to Roberts et al. (2005), firm size plays an important role in determining the extent of information disclosure in annual reports. Ousama and Fatima (2010) explain the relationship between firm size and the extent of disclosure. Bronson et al. (2006) and Macagnan (2007) tested the size hypothesis. Large companies have a greater number of contracts between managers and shareholders than small companies and, hence, a greater principal agent problem. Eniola (2022) reported that a higher level of disclosure might reduce agency costs between managers and shareholders. Another motivation for increased disclosure in a large company is the existence of a more complete information system, which would allow lower costs of obtaining and publishing information compared to those incurred by a small company. It is also understood that a smaller company is more vulnerable to a loss in competitive advantage than a larger company.

Leverage one of the important items in the capital structure of companies and it provides a medium for corporate financing as firms borrow money in order to obtain the capital, they require for operating their businesses. According to Eniola (2022), leverage can either be short-term or long-term. Short-term leverage represents funds needed to finance the daily operations of the firm, such as trade receivables, short-term loans and inventory financing. Given that firms with higher leverage levels incur more agency costs (potential wealth transfers from debtholders to shareholders and managers), they seek to reduce these costs and information asymmetries by disclosing more information to satisfy the needs of creditors for information.

Yadav et al. (2021) noted that leverage of firms is measured as a ratio of total debt to equity (DER). This leverage ratio measures the firm's total capital structure and is defined as the sum of long-term debt and debt in current liabilities, divided by common equity-total. Debt in current liabilities represents the total amount of short-term notes and the current portion of long-term debt that is due in one year.

### ***Theoretical Framework***

This study adopts Stakeholder Theory and the Resource-Based View (RBV) as the most appropriate theoretical foundations for examining the impact of Environmental, Social, and Governance (ESG) practices on financial performance. Stakeholder Theory provides a broad framework for understanding how companies manage relationships with various stakeholders such as investors, regulators, local communities, and employees who influence corporate decision-making (Freeman, 1984). In the Nigerian Oil and Gas sector, where public scrutiny and regulatory pressures are especially high, firms are increasingly expected to adopt robust ESG practices to meet stakeholder expectations and maintain legitimacy (Rahadian et al.,

2023). A key assumption of Stakeholder Theory is that companies do not operate in isolation but depend on stakeholder support for long-term success. Companies that actively engage in environmental protection, social responsibility, and strong governance structures tend to experience higher stakeholder trust, which translates into better financial performance (Olatunji & Eze, 2023).

### ***Empirical Review***

Apriyani et al. (2025) examine the impact of sustainability reporting on corporate financial performance through a Systematic Literature Review (SLR) approach. Amidst the increasing demands for non-financial transparency and accountability, sustainability reporting is considered an important instrument to reflect corporate responsibility towards economic, social, and environmental aspects. The analysis was conducted on 10 selected articles published between 2020 and 2025. The research findings show that the economic dimension in sustainability reporting consistently has a positive and significant effect on financial performance, especially return on assets (ROA) and return on equity (ROE). However, the social and environmental dimensions produce inconsistent effects, even tending to be negative. Factors such as corporate governance efficiency and geographic context also moderate the relationship between sustainability reporting and financial performance. These results confirm that sustainability reporting plays a role as part of a broader corporate strategy, and its effectiveness is greatly influenced by the quality of disclosure and stakeholders' willingness to value non-financial information.

Rubushi and Bugaje (2025) examines impact of sustainability reporting on investor's behavior in listed oil and gas firms in Nigeria for a period of (10) years ranging from 2014 to 2023. The study utilizes four dimensions of sustainability reporting, (Environmental, Social, Governance and Economic) sustainability reporting while Firm Performance been the dependent variable was proxied by Tobin Q and measured by Return on Asset. The study adopted ex-post facto research design while the population of the study comprised of all the (10) listed oil and gas firms as at 31 December, 2023.

Census sampling was adopted while data was obtained from secondary sources due to the fact that it is a quantitative study based on positivism paradigm. Panel multiple regression was used for the analysis and the study conducted a test of descriptive statistics, correlation matrix as well as some post estimation econometrics test such as, normality test, heteroskedasticity, autocorrelation, and random effect model test. From the regression result, evidence indicates that a low significant positive relationship between environmental, social and governance sustainability reporting and Return on Asset, though the relationship was insignificantly low for social disclosure but a positive relationship with economic sustainability. Based on the above findings the study concluded that sustainability disclosure influences the return on Asset in the Nigeria capital market. The policy implication of the study is that firms that disclose sustainability reporting in their annual reports are likely to attract more investors. Therefore, in line with the conclusion the study recommends amongst others that firms should deliberately increase their disclosure of sustainability performance reporting in order to attract investors to their shares and therefore increase their market value.

Onwubiko et al. (2025) examined the effect of sustainability reporting on financial performance of oil and gas companies in Nigeria. The objectives were to find out the effect of social disclosure on return on equity of listed oil and gas firms in Nigeria; determine the effect of corporate governance disclosure on their return on equity; and ascertain the impact of environmental disclosure on their return on equity. Ex-post facto design was adopted. The independent variable of the study is sustainability accounting proxied by environment reporting (investment in environmental and green projects), social reporting (investment in social responsibility) and governance reporting (board size).

The dependent variable of the study is firm's performance measured by return on equity. Data were extracted from the comprehensive income statements and financial position of five listed oil and gas companies which are Ardova Nigeria Plc, Oando Plc, Conoil Plc, MRS Plc and Totalenergies covering the period from 2011 to 2024. The data were subjected to unit root test, cointegration, and multiple linear regressions. Findings revealed that social responsibility disclosure has negative but significant effect on return on equity of listed oil and gas firms in Nigeria. Corporate governance disclosure has positive and significant effect on return on equity of listed oil and gas firms in Nigeria. Environmental disclosure has positive but no significant effect on return on equity of listed oil and gas firms in Nigeria. Evidence provided a conclusion that sustainability reporting actually led to improved financial performance of the oil and gas companies in Nigeria.

Abdulsalam and Gbadebo (2024) investigated the impact of ESG investment on financial sustainability in Nigeria's oil and gas industry. Using panel regression analysis on corporate reports from 2013 to 2023, they found that environmental investments had an insignificant effect on return on assets (ROA), while social investments positively influenced financial performance. Governance investments showed no substantial effect, suggesting that corporate governance structures alone may not directly contribute to financial sustainability.

Okutu and Adegbe (2024) explored sustainability reporting and financial performance in Nigeria's oil and gas industry. Using panel data from 2013 to 2022, their study concluded that sustainability disclosures significantly improved return on assets (ROA) and return on equity (ROE). Similarly, Wang and Zhu (2024) conducted a systematic review of ESG performance and financial outcomes. Findings showed that ESG implementation positively correlates with financial success, but sectoral differences influence outcomes. However, the study did not include empirical data from Nigerian oil and gas companies, creating a gap in understanding ESG's impact in this industry.

Yu (2024) investigated how ESG enhances financial performance in Uganda, with a focus on corporate efficiency and financing constraints. Results showed that ESG practices reduce financial burdens and improve profitability. However, the study did not address the long-term sustainability of ESG investments, leaving a gap in evaluating future financial trajectories. In another vein, Matemane et al. (2024) explored the nexus between ESG and financial performance in South African firms. Findings revealed that ESG indicators have a positive but statistically insignificant effect on financial performance. However, the research did not investigate sectoral differences, limiting its application to specific industries.

Eliza (2024) assessed sustainable investment practices in South Africa, focusing on ESG integration and financial stability. Results suggested that ESG investments enhance financial resilience, but the study lacked a risk-adjusted return analysis, leaving a gap in assessing the long-term risks associated with ESG portfolios.

Lu and Gong (2024) examined the mediating role of investment efficiency in ESG-financial performance relationships in Ghanaian companies. Using longitudinal panel data, the study found that investment efficiency strengthens ESG-financial performance linkages. However, the research did not account for macroeconomic shocks, such as recessions or inflation, leaving a gap in understanding ESG's effect on financial performance of oil and gas firms. Similarly, Luh et al. (2024) examined the impact of gender in firm leadership on ESG disclosure among banks listed on the Ghana Stock Exchange. The study analysed audited annual reports from 2006 to 2020, using panel-corrected standard errors for empirical estimation. Results revealed that female CEOs and board chairs positively influenced ESG disclosure, particularly in governance and social disclosure.

Agbakwuru et al. (2024) assessed the relationship between ESG reporting and corporate financial performance in Ghanaian companies. The study employed quantitative data from publicly listed companies and examined the impact of ESG disclosures on return on assets (ROA), return on equity (ROE), and share prices. Findings indicated that ESG reporting positively correlated with financial performance, though the study did not consider sectoral variations that may influence these relationships in different industries.

Putra and Budastra (2024) explored the mediating role of financial performance in the relationship between ESG and firm value. Using a regression-based approach with secondary data from Thomson Reuters and OSIRIS databases, the study found that financial performance fully mediated the ESG-firm value relationship. Despite its insights, the research lacked industry-specific analysis, which may affect the broader applicability of its findings in the Ghanaian corporate environment.

Tomomewo et al. (2022) investigated how sustainability disclosures impact financial performance of the Deposit Money Banks in Nigeria. Ex-post facto research design was adopted and the population covered all the Deposit Money Banks (DMBs) in Nigeria; out of which, 11 listed DMBs were judgmentally sampled.

The study covered a period of 10 years (2009 - 2018) and the data collected from the financial reports of the sampled banks were analyzed through panel regression analysis. It was discovered that DMBs in Nigeria did not consider sustainability reporting as an important component of annual financial statements, DMBs considered governance to be synonymous with sustainability reporting, there were a positive and significant effects of LNSIZE on dividend per share and profit before tax of deposit money banks in Nigeria and that among the sustainability variables, it was only governance reporting that shows significant effects on financial performance of DMBs as measured by dividend per shares. The study, therefore, concluded that sustainability reporting has no significant effect on financial performance of deposit money banks in Nigeria.

The evidences from these previous studies show that the effect of sustainability reporting on financial performance have been grounded on empirical and theoretical arguments ranging from those that opined that sustainability practice reduces firm financial performance, and those that suggested that it could be deployed for competitive advantage against their rival and also to project a positive image to various stakeholders.

The absence of convergence observed, leading to inconsistent outcomes, suggests that this research topic is still far from being completely resolved through empirical evidence. Typically, several studies on sample corporations failed to account for the specific year in which the SEC required every listed firms to submit a voluntary sustainable banking report. A substantial body of literature substantiates the notion that sustainability reporting has a noteworthy influence on financial performance, even though the examined empirical study revealed a varied correlation between sustainability reporting and financial performance metrics.

The subsequent research, among other studies, has examined the impact of sustainability reporting on financial performance. The following studies have been conducted by various authors: Burhan and Rahmanti (2009); Burhan and Rahmanti (2012); Latridis (2013), Kwaghfan (2015); Nur et al. (2016); Nnamani et al. (2017); Asuquo et al. (2018); Umukoro et al. (2019); Johari and Komathy (2019); Pajuelo et al. (2019); Tiamiyu and Oyekunle (2019); Okolie and Igaga (2020); Buallay et al. (2021); Coulmont et al. (2022).

However, these studies are have divergent findings regarding the effect of sustainability reporting and financial performance. In addition, these studies focused on different sectors and industries. Hence, their findings cannot be generalized. This study seeks to address the existing knowledge vacuum by investigating the correlation between sustainability reporting and financial performance in Nigeria, with a particular focus on the listed oil and gas firm in the country.

### **3. METHODOLOGY**

The study adopts an ex-post-facto quantitative design because it analyzes existing secondary data without manipulating variables. A longitudinal panel approach captures variations in environmental disclosure and financial performance from 2013 to 2023. The population comprises all ten oil and gas firms listed on the Nigerian Exchange (NGX). Based on data completeness, eight firms were selected: Aradel Holdings Plc, Conoil Plc, Eterna Plc, MRS Oil Nigeria Plc, Oando Plc, Seplat Energy Plc, TotalEnergies Marketing Nigeria Plc, and Ardova Plc. Data were obtained from audited annual reports, sustainability reports, and NGX filings for the period 2013–2023. The environmental sustainability reporting index was constructed using the GRI Series indicators.

#### ***Model Specification and Variable Measurement***

The investigation employed the model that was selected. For this study, a significant modification of the model used by Hongming et al. (2020) was made in order to assess the association between sustainability reporting and firm performance. The panel regression model that captures the effects of sustainability reporting on financial performance of listed oil and

gas firms in Nigeria is presented below:

$$ROA_{it} = \alpha_{it} + \beta_1 ECO_{it} + \beta_2 ENV_{it} + \beta_3 SOC_{it} + \beta_4 GOV_{it} + \beta_5 FS_{it} + \beta_6 FLEV_{it} + \varepsilon_{it}$$

Where,

ROA – Return on asset

ENV – Environmental sustainability reporting

SOC – Social sustainability reporting

ECO – Economic sustainability reporting

Governance – Governance sustainability reporting

FS – Firm size

LEV – Financial leverage

$\beta_1 \beta_5$  – Beta coefficient

$\alpha$  – constant

$\varepsilon$  – error terms

it – identifier and time

**Table 1: Variables and their measurement**

S/N	Variable	Measurement	Source
i	Economic sustainability reporting	Economic disclosure score as per SEC standards	SEC content (SEC, 2021); Dobbs and Standa (2016)
ii	Environmental sustainability reporting	Environmental disclosure score as per SEC standards	(SEC, 2021) Checklist as a guide, conduct a content analysis Daniel, Mogaka, Makori, Ambrose and Jagongo (2013)
iii	Social sustainability reporting	Social Performance disclosure score as per SEC standards	SEC (2021)
iv	Governance sustainability reporting	Governance performance disclosure score as per SEC standards	SEC (2021)
v	Financial performance	Profit after tax divided total asset	Iyoha and Igbiovvia (2023)
vi	Firm size	Log of total asset	Iyoha and Igbiovvia (2023)
vii	Financial leverage	Measured by dividing total debt by total assets	Malik et al. (2024)

Source: Author's compilation (2026)

## 4. RESULT AND DISCUSSIONS

### *Descriptive statistics*

Descriptive statistics of the variables were analysed to show the behaviour of the data using mean, standard deviation, minimum and maximum. The analysis is presented in Table 4.1:

**Table 2: Descriptive Statistics**

Variable	Mean	Standard Deviation	Minimum	Maximum
ROA	.0248229	.0983767	-.521	.426
ECO	74.33333	40.73268	0	100
ENV	34.5249	34.78416	0	100
SOC	75.73958	40.78293	0	100
GOV	80.25	37.59283	0	100
FS	5.81e+07	5.49e+07	3278	3.17e+08
LEV	1.11e+10	1.03e+11	3278.2	9.60e+11

Source: Stata output (2026)

Table 2 shows that the average value of ROA of listed oil and gas firms in Nigeria is 2.4%. Implying that on the average management of oil and gas firms make 2.4% return from the total assets investment. The deviation from the mean is 9.8%, while the minimum and maximum values are -52.1% and 42.6% respectively. The implication of this outcome is that the oil and gas sector is highly volatile.

Table 2 also shows the economic sustainability reporting for oil and gas firms. The average percentage reporting for oil and gas firms in Nigeria is 74.3% with a deviation of 40.7%. This deviation means that oil and gas firms reporting differs among the firms. The minimum and maximum values are 0% and 100% respectively. Also, the average value of the environmental sustainability reporting for oil and gas firms is 34.5%. This implies that oil and gas firms do not report their environmental issues completely.

The standard deviation for environmental sustainability reporting is 34.7% while the minimum and maximum percentage is 0% and 100% respectively. The average percentage of social sustainability reporting for oil and gas firms in Nigeria is 75.7% with a deviation of 40.78%. The minimum and maximum percentage of social sustainability reporting are 0% and 100% respectively. The implication of this findings is that oil and gas firms are largely compliant in reporting social sustainability issues.

The average governance sustainability structure shows 80.25% reporting rate. The deviation is 37.59% which is far from the average. This implies that listed oil and gas firms are not consistent in their sustainability reporting. In addition, the minimum and maximum percentage reporting is 0% and 100% respectively. Based on the foregoing, environmental sustainability reporting is the least reported among listed oil and gas firms in Nigeria while governance is the most reported.

The average size of listed oil and gas firm in Nigeria is N5.8 billion with a deviation of N5.4 billion. The minimum and maximum size of listed oil and gas firms are N327 billion and N3.17 trillion respectively. Table 2 also shows that the average leverage incurred by the selected firms is 1.11 billion Naira with a deviation of 1.03 billion Naira. The minimum and maximum leverage is 7.4 billion Naira and 9.6 billion Naira respectively.

**Correlation Matrix**

**Table 3: Correlation Matrix**

Variable	ROA	ECO	ENV	SOC	GOV	FS
ROA	1.0000					
ECO	-0.2162 0.0344	1.0000				
ENV	-0.2082 0.0418	0.3400 0.0007	1.0000			
SOC	-0.2194 0.0318	0.9914 0.0000	0.3248 0.0012	1.0000		
GOV	-0.1624 0.1140	0.7145 0.0000	0.2723 0.0073	0.7182 0.0000	1.0000	
FS	-0.1464 0.1547	0.2177 0.0331	0.0905 0.3803	0.2304 0.0239	0.2277 0.0257	1.0000
LEV	-0.2040 0.0581	-0.3520 0.0009	-0.0419 0.7015	0.0215 0.8461	0.2269 0.0346	1.0000

Source: Stata output (2026)

A correlation matrix was carried out to understand the relationship among the independent variable and dependent variables. Based on the analysis in Table 3, the result shows that the relationship between economic sustainability reporting and ROA is significant but negative. This implies an increase in economic sustainability reporting results to a decrease in ROA of listed oil and gas firms in Nigeria. Similarly, the relationship between environmental sustainability reporting and ROA of listed oil and gas firms in Nigeria is significant but negative. Implying an increase in environmental sustainability reporting results to a decrease in ROA of listed oil and gas firms in Nigeria. Also, the relationship between social sustainability reporting and ROA is significant and negative. It can therefore be argued that an increase in social sustainability reporting of listed oil and gas firms in Nigeria results to a decrease in ROA. In contrast, the relationship between governance sustainability reporting and ROA of listed oil and gas firms in Nigeria is insignificant. This implies that governance sustainability reporting does not affect ROA of listed oil and gas firms in Nigeria. In addition, the firm size and financial leverage also have an insignificant relationship with ROA of listed oil and gas firms in Nigeria. Based on these findings, this study concludes that sustainability reporting (economic, environmental and social sustainability reporting) has an inverse relationship with ROA of listed oil and gas firms in Nigeria.

**Multicollinearity Test**

**Table 4: Multicollinearity Test**

Variable	VIF	1/VIF
SOC	60.13	0.016630
ECO	59.87	0.016703
GOV	2.09	0.478071
ENV	1.15	0.872543
LOGFS	1.07	0.931189

LEV	6.38	0.156640
Mean VIF	24.86	

Source: Stata output (2026)

The regression analysis underwent a multicollinearity test to detect the presence of collinearity among the variables. Multicollinearity occurs when two or more independent variables in a regression model are highly correlated, which makes it difficult to estimate their individual effect on the dependent variable because they move together. This could affect the reliability of the estimates. The result shows that the mean of the Variance Inflation Factor (VIF) was 24.86, which is much higher than the threshold of 10. The VIF for individual variables was also very high for social and economic sustainability reporting. This indicates that the explanatory variables included in the model were correlated, indicating the presence of multicollinearity between the variables. To address this, a robust model is required. The study, therefore, adopted Generalised Linear Regression (GLS) with correction for multicollinearity.

### Test of Hypotheses

**Table 5: Generalized Least Square Regression**

ROA	Coef.	Std. err.	Z	prob
ECO	.0004533	.0002128	2.13	0.033
ENV	-.0004848	.0000772	-6.28	0.000
SOC	-.0008522	.0002357	-3.62	0.000
GOV	.0001517	.0000771	1.97	0.049
LOGFS	-.0095022	.0037521	-2.53	0.011
LEV	.2417648	.0762823	3.17	0.002
CONS	.1306293	.0288321	4.53	0.000

Source: Stata output (2026)

#### **H<sub>01</sub>: Economic sustainability reporting has no significant effect on the financial performance of listed oil and gas firms in Nigeria.**

The null hypothesis which states that economic sustainability reporting has no significant effect on the financial performance of listed oil and gas firms in Nigeria is rejected at 5% significant level ( $P = 0.033$ ). Therefore, the alternative hypothesis which states that economic sustainability reporting has significant effect on the financial performance of listed oil and gas firms in Nigeria is accepted. This finding suggests that an increase in economic sustainability reporting result to an increase in ROA of listed oil and gas firms in Nigeria 0.045%.

#### **H<sub>02</sub>: Environmental sustainability reporting has no significant effect on financial performance of listed oil and gas firms in Nigeria.**

Table 5 shows that the null hypothesis which states that Environmental sustainability reporting has no significant effect on financial performance of listed oil and gas firms in Nigeria was rejected at 5% significant level ( $P = 0.000$ ). The findings suggests that environment sustainability reporting have a significant but negative effect on ROA of listed oil and gas firms in Nigeria. The implication of this finding is that an increase in the environment sustainability

reporting decreases the ROA of listed oil and gas firms in Nigeria.

**H03: Social sustainability reporting has no significant effect on financial performance of listed oil and gas firms in Nigeria.**

Table 5 shows that the null hypothesis which states that social sustainability reporting has no significant effect on financial performance of listed oil and gas firms in Nigeria is rejected at 5% significant level (P = 0.000). The finding reveal that social sustainability reporting has significant but negative effect on ROA of listed oil and gas firms in Nigeria. Therefore, an increase in social sustainability reporting result to decrease in ROA of listed oil and gas firms in Nigeria.

**H04: Governance sustainability reporting has no significant effect on financial performance of listed oil and gas firms in Nigeria.**

Table 5 shows that the null hypothesis which states that governance sustainability reporting has no significant effect on financial performance of listed oil and gas firms in Nigeria is rejected at 5% significant level (P = 0.049). The finding reveal that governance sustainability reporting has significant positive effect on ROA of listed oil and gas firms in Nigeria. Therefore, an increase in governance sustainability reporting result to an increase in ROA of listed oil and gas firms in Nigeria.

**H05: Firm size has no significant effect on return on asset of listed oil and gas firms in Nigeria.**

The control variable which is measure as firm size was included in the model. Table 5 shows that the effect of firm size on ROA is significant at 5% (P = 0.011). However, the effect is negative. This implies larger firms do not translate to higher performance in listed oil and gas firms in Nigeria.

**H06: Financial leverage has no significant effect on return on asset of listed oil and gas firms in Nigeria.**

The second control variable which is measure as financial leverage was included in the model. Table 5 shows that the effect of financial leverage on ROA is significant at 5% (P = 0.002) and positive. This implies that levered listed oil and gas firms perform better than unlevered firms.

**Heteroscedasticity Test**

**Table 6: Heteroscedasticity Test**

Model	Chi <sup>2</sup>	Prob > chi <sup>2</sup>
ROA	17.85	0.0000

Source: Stata output (2026)

Regression analysis relies on the statistical premise that all observations' error terms have a homoscedastic variance. Conversely, mistakes with varied variance are referred to as heteroscedastic. The Breusch-Pagan/Cook-Weisberg test was used to determine whether the residuals of the estimations were heteroskedastic. According to the null hypothesis,

heteroskedasticity does not exist. According to Table 6, the models exhibit heteroskedasticity. Both fixed and random effects were estimated as a result of the null hypothesis being rejected since it was determined to be significant at 5%.

**Normality Test**

**Table 7: Normality Test**

Variable	Obs	W	V	Z	Prob>Z
ECO	96	0.87767	9.762	5.043	0.00000
ENV	96	0.86485	10.786	5.264	0.00000
SOC	96	0.83684	13.021	5.681	0.00000
GOV	96	0.83685	13.020	5.681	0.00000
ROA	96	0.55570	35.456	7.898	0.00000
LOGFS	96	0.74409	20.422	6.677	0.00000
LEV	96	0.44077	19.244	4.517	0.00000

Source: Stata output (2026)

**Table 8: Doornik-Hansen**

Chi <sup>2</sup>	Prob>chi <sup>2</sup>
316.526	0.0000

Source: Stata output (2026)

The Doornik–Hansen test is a multivariate test for normality of residuals. The Doornik-Hansen test determines whether the residuals (or data vector) are jointly normally distributed. It generalizes the Jarque–Bera (JB) test by using transformations that improve small-sample performance and allow multivariate testing.

**H<sub>0</sub>:** The data (or regression residuals) follow a normal distribution.

**H<sub>1</sub>:** The data do not follow a normal distribution.

The result in Table 8 shows that the null hypothesis is rejected. Hence, the normality of the residuals are normally distributed.

**5. SUMMARY, CONCLUSION AND RECOMMENDATIONS**

This study examined the effect of economic, environmental, social, and governance (EESG) sustainability reporting on the financial performance of listed oil and gas firms in Nigeria, using ROA as measures of performance. The analysis yielded several key findings. This study underscores the significant effect of economic sustainability reporting on financial performance, affirming that oil and gas firms that disclose their economic contributions and value-creation processes tend to achieve superior financial outcomes. The evidence reviewed indicates that transparent economic sustainability reporting enhances stakeholder trust, reduces information asymmetry, and strengthens corporate legitimacy, all of which translate into improved profitability, higher market valuation, and long-term resilience. From both theoretical and empirical perspectives, the findings validate the applicability of stakeholder theory,

legitimacy theory, and the resource-based view, which collectively explain why economic transparency is increasingly regarded as a strategic resource. Firms that integrate economic sustainability reporting into their governance and disclosure practices are better positioned to attract capital, build reputational capital, and mitigate financial and regulatory risks. Consequently, economic sustainability reporting is not merely a compliance requirement but a strategic instrument for sustainable financial success. The conclusion reinforces the need for firms especially in highly regulated and stakeholder-sensitive sectors such as banking to embed economic sustainability disclosures within their broader corporate reporting frameworks, aligning with global best practices such as the GRI Standards and IFRS Sustainability Disclosure Standards. In summary, economic sustainability reporting significantly and positively affects financial performance of listed oil and gas firms in Nigeria, establishing itself as a critical driver of both short-term profitability and long-term value creation. Based on the findings and conclusions, the following recommendations are put forward:

- i. The management of Oil and gas firms in Nigeria should embed economic sustainability reporting into their strategic planning, not as an afterthought but as a central pillar of corporate governance. This will help strengthen stakeholder trust and ensure alignment with both national economic goals and global sustainability frameworks such as the Global Reporting Initiative (GRI) and IFRS Sustainability Disclosure Standards.
- ii. The Federal Government, in collaboration with regulatory agencies such as Nigerian Upstream Petroleum Regulatory Commission (NUPRC) and the National Environmental Standards and Regulations Enforcement Agency (NESREA), should introduce tax rebates, subsidies, and green financing schemes to incentivize oil and gas firms that invest in cleaner technologies, carbon capture, and renewable energy diversification. Such incentives would reduce the financial burden of sustainability initiatives and improve firms' competitiveness.
- iii. Develop a Unified National Sustainability Reporting Standard. Regulators such as the Nigerian Extractive Industries Transparency Initiative (NEITI), in collaboration with the Financial Reporting Council (FRC), should create a uniform SSR framework tailored to Nigeria's oil and gas context. This will reduce reporting complexity and compliance costs for firms.
- iv. Oil and gas firms should engage regulators such as the Nigerian Upstream Petroleum Regulatory Commission (NUPRC) and the Nigerian Extractive Industries Transparency Initiative (NEITI) to advocate for flexible governance reporting guidelines that account for the financial realities of the sector. Collaborative policies can reduce reporting burdens while ensuring transparency.

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